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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,884	02/13/2001	Jes Thyssen	10932/35	3334

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EXAMINER

TRAN, VINCENT V

ART UNIT	PAPER NUMBER
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2655

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DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/782,884

Applicant(s)

THYSSEN, JES

Examiner

vincent v tran

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 7, 8, 10-18 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Benyassine et al. (U.S. Patent No. 6,636,829).

Referring to claim 1, Benyassine et al. disclose a speech coding system with input signal transformation, comprising:

an encoder disposed to receive an input signal (Fig.1, element #117 and col.6, ln.59-62), the encoder to provide a bitstream based upon a speech coding of a portion (frame-by-frame basis, col.10, ln.49) of the input signal (col.15, ln.54-56),

where the encoder selectively sets the input signal to a zero-level when a portion of the input signal comprises silence noise (silence enhancement, Fig.3, element #195 and col.10, ln.4-6).

Referring to claims 2 and 16, Benyassine et al. disclose the speech coding system or a method, where the encoder adaptively tracks a zero-level (col.10, ln.1-2) and at least one quantization of the input signal level (col.11, ln.2-7); and

selecting the input signal to a zero-level when the input signal comprises silence noise (col.10, ln.4-6);

where the encoder calculates (determines) at least one silence detection parameter (col.10, ln.1-2); and

where the encoder compares the at least one silence detection parameter of the input signal to at least one threshold (col.10, ln.2-8, it is inherent that to determine if the frame of the input signal is silence, some parameter(s) of the input signal must be compared with a threshold value).

Referring to claim 3, Benyassine et al. disclose the speech coding system, where the zero-level is one of 0 and 8 (col.10, ln.16-17).

Referring to claim 5, Benyassine et al. disclose the speech coding system, where the at least one silence detection parameter comprises at least one frame rate (col.8, ln.49-52).

Referring to claims 7 and 17, Benyassine et al. disclose the speech coding system or the method, where the encoder ramps the input signal to a zero-level when a current portion of the input signal is a first silence portion (col.10, ln.4-6).

Referring to claims 8 and 18, Benyassine et al. disclose the speech coding system or the method, where the encoder maintains the input signal at the zero-level when consecutive portions of the input signal comprise silence noise (col.10, ln.4-6).

Referring to claim 10, Benyassine et al. disclose the speech coding system, where the encoder maintains the input signal when consecutive portions of the input signal do not comprise silence noise (col.10, ln.6-8).

Referring to claim 11, Benyassine et al. disclose the speech coding system, where the speech coding comprises code excited linear prediction (CELP) (col.9, ln.4-5).

Referring to claim 12, Benyassine et al. disclose the speech coding system, where the speech coding comprises extended code excited linear prediction (eX-CELP) (col.8, ln.19-21).

Referring to claim 13, Benyassine et al. disclose the speech coding system, where the portion of the input signal is one of a frame, a sub-frame, and a half frame (col.8, ln.51-52).

Referring to claim 14, Benyassine et al. disclose the speech coding system, where the encoder comprises a digital signal processing (DSP) chip (col.7, ln.53).

Referring to claim 15, Benyassine et al. disclose the speech coding system, further comprising a decoder operatively connected to receive the bitstream from the encoder, the decoder to provide a reconstructed signal based upon the bitstream (col.15, ln.55-56 and col.7, ln.5-15).

Referring to claim 21, Benyassine et al. disclose the method, further comprising comparing the at least one silence detection parameter with the at least one threshold individually or in combination (col.10, ln.2-8 and, it is inherent that to determine if the frame or sub-frame of the input signal is voiced or non-voiced, the input signal must be compared with the threshold value).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benyassine et al. in view of Wei (U.S. Patent No. 6,606,255).

Referring to claim 4, Benyassine et al. do not specifically disclose a speech coding system, where the at least one quantization level comprises:

a smallest positive signal value; a second smallest positive signal value; a smallest absolute negative signal value; and a second smallest absolute negative signal value.

However, Wei teaches positive and negative quantization levels (col.4, ln.7-28).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention to modify the quantization level of Benyassine et al. by incorporating the teaching of Wei in order to minimize quantization error.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benyassine et al. in view of Hoagland (U.S. Patent No. 6,564,060).

Referring to claim 6, Benyassine et al. do not specifically disclose a speech coding system, where the at least one frame rate comprises at least one of a zero_rate, a low_rate, and a high_rate.

However, Hoagland teaches a zero, low and high transmitting rates (col.3, ln.45 and col.5, ln.24-36).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention to modify the frame rate of Benyassine et al. by incorporating the teaching of Hoagland in order to decrease the processing time.

Claims 9, 19-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benyassine et al. in view of Szczebak, Jr. et al. (U.S. Patent No. 5,652,712).

Referring to claims 9 and 19, Benyassine et al. do not specifically disclose a speech coding system or a method, where the encoder ramps-up the input signal from a zero-level when a current portion of the input signal is a first non-silence portion.

However, Szczebak, Jr. et al. teach to ramp up or ramp down when the system detected silence or non-silence signal (col.36, ln.42-45).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention to modify the ramp function of Benyassine et al. by providing a ramp up or ramp down in order to instantaneous or abrupt changes in the gain do not produce impulses or audible clicks on the channel as taught by Szczebak, Jr. et al (col.36, ln.42-45).

Referring to claim 20, Benyassine et al. further disclose the speech coding method, where the encoder maintains the input signal when consecutive portions of the input signal do not comprise silence noise (col.10, ln.6-8).

Referring to claim 22, Benyassine et al. do not specifically disclose a method comparing the at least one silence detection parameter from the current portion of the

input signal and from at least one preceding portion of the input signal with the at least one threshold.

However, Szczebak, Jr. et al. teach a method for comparing a channel data with a threshold value to determine if the channel data has been detected as being silent in an immediate preceding frame(col.36, ln.16-22).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention to modify the method of Benyassine et al. by incorporating the teaching of Szczebak, Jr. et al. in order to verify the temporarily determined silence or background noise portion are accurate.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gao (U.S. Patent No. 6,564,182) teach an encoding system is presented for coding and processing an input signal on a frame-by-frame basis.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner **Vincent V. Tran** whose E-mail address:

Vincent.tran@USPTO.GOV.

Phone number: (703) 305-1817

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Talivaldis Ivars Smits, can be reached on (703) 306-3011.

Art Unit: 2655

8. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 2600 receptionist whose telephone number is (703) 305-4700.

9. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450


Alexandria, VA 22313-1450


Or faxed to: (703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Dr, Arlington VA, Sixth Floor (Receptionist, Tel. No. 703-305-4700).

Art Unit 2655

VINCENT V. TRAN


Date: January 5, 2004


TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER